

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-49. (canceled)

50. (previously presented) A method for producing a composite object comprising at least two distinct parts having different properties and/or functions, which comprises:

- forming at least one layer comprising more than 70 wt.% of an expanded material selected from expanded graphites,
- forming at least one other layer comprising more than 70 wt.% of another expanded material selected from expanded vermiculites,
- and then compressing together the layers so formed so as to consolidate them, each consolidated layer corresponding to one of the parts of the object.

51. (previously presented) The method as claimed in claim 50, wherein the layers are formed to be adjacent.

52. (previously presented) The method as claimed in claim 50, wherein the layers formed are compressed together according to several directions.

53. (previously presented) The method as claimed in claim 52, wherein the layers formed are compressed together according to three orthogonal directions.

54. (previously presented) The method as claimed in claim 50, wherein the layers formed are compressed according to a single direction.

55. (previously presented) The method as claimed in claim 54, wherein the direction of compression (c) is substantially orthogonal with respect to an interfacial plane between said layers.

56. (previously presented) The method as claimed in claim 50, wherein the layers formed are subjected to a single compression operation according to each direction (A, B, C).

57. (previously presented) The method as claimed in claim 50, wherein the layers formed are subjected to a single compression operation.

58. (previously presented) The method as claimed in claim 50, wherein the layers formed are subjected to a plurality of distinct compression operations according to at least one direction.

59. (previously presented) The method as claimed in claim 58, wherein there are carried out, according to that direction, a first compression operation suitable for consolidating the layers formed in order to allow them to be handled and, subsequently, a second compression operation suitable for conferring a desired density on one of said layers.

60. (previously presented) The method as claimed in claim 50, wherein, during compression of the layers formed, there are impressed into at least one face, called an outer face, of at least one layer of graphite open recessed forms, called capture forms, which are suitable for trapping infra-red waves.

61. (previously presented) The method as claimed in claim 50, wherein there is used as expanded graphite an expanded natural graphite.

62. (previously presented) The method as claimed in claim 50, wherein the layer of vermiculite formed comprises less than 30 wt.% additives selected from perlite, expanded materials obtained from oxides such as SiO_2 or Al_2O_3 , kandites, illites, smectites, kaolinates.

63. (previously presented) The method as claimed in claim 50 for producing an electrochemical cell, wherein a layer of expanded vermiculite is formed between two layers of expanded graphite, and then the layers so formed are compressed together.

64. (previously presented) The method as claimed in claim 63, wherein the layers formed are compressed together according to three orthogonal directions.

65. (previously presented) The method as claimed in claim 63, wherein the layers formed are compressed in such a manner that the two consolidated layers of graphite have a density of from 30 to 60 kg/m³.

66. (previously presented) The method as claimed in claim 63, wherein, for at least one of the layers of graphite, microgrooves are formed on one face of said layer, called an inner face, that is oriented towards the layer of vermiculite, by placing destructible or removable threads between the layer of expanded graphite and the layer of expanded vermiculite during their formation, said threads being destroyed or removed once the layers have been consolidated.

67. (previously presented) The method as claimed in claim 63, wherein heating/cooling members are incorporated into at

least one of the layers of expanded graphite during its formation.

68. (previously presented) The method as claimed in claim 63, wherein during compression of the layers formed, there are impressed into at least one face, called an outer face, of at least one layer of graphite open recessed forms, called capture forms, which are suitable for trapping infra-red waves, and there are impressed into at least one outer face of at least one layer of graphite capture forms having at least one front dimension of from 1 μm to 5 mm and a depth of from 1 μm to 1 mm.

69. (previously presented) The method as claimed in claim 63, wherein each layer of graphite formed comprises less than 20 wt.% of a powder of a catalytic material, such as a catalytic metal or metal oxide.

70. (previously presented) The method as claimed in claim 63, wherein the layer of vermiculite formed comprises lyophilized enzymes.

71. (previously presented) The method as claimed in claim 50 for producing a mold, wherein a model is covered with a layer of expanded graphite, then a layer of expanded vermiculite that

covers at least part of the layer of graphite is formed, and then the layers so formed are compressed together.

72. (previously presented) The method as claimed in claim 71 for producing a casting mold, wherein the layers formed are compressed together in such a manner that the consolidated layer of graphite has a density greater than 100 kg/m^3 .

73. (previously presented) The method as claimed in claim 71, wherein heating/cooling members are placed in the layer of expanded graphite during its formation.

74. (previously presented) The method as claimed in claim 71, wherein at least one channel suitable for receiving a heating/cooling fluid is formed directly in the mass of graphite by placing at least one destructible or removable tube in the layer of expanded graphite during its formation, said tube(s) being destroyed or removed once said layer has been consolidated.

75. (previously presented) The method as claimed in claim 71, wherein during compression of the layers formed, there are impressed into at least one face, called an outer face, of at least one layer of graphite open recessed forms, called capture forms, which are suitable for trapping infra-red waves, and the layer of vermiculite is formed in such a manner as to leave at

least one face of the consolidated layer of graphite, called an outer face, visible when the mold is in use, and wherein there are impressed into at least one outer face of the layer of graphite capture forms having at least one front dimension of from 1 mm to 2 cm and a depth of from 1 mm to 10 cm.

76. (previously presented) The method as claimed in claim 50 for producing a heliothermal converter, wherein a layer of expanded graphite is formed, in which there is provided at least one channel suitable for receiving a liquid coolant, a layer of vermiculite is formed, which layer covers at least part of the layer of graphite and leaves uncovered at least one face thereof, called an absorption face, and then the layers so formed are compressed together.

77. (previously presented) The method as claimed in claim 76, wherein at least one permanent tube is placed in the layer of expanded graphite.

78. (previously presented) The method as claimed in claim 76, wherein at least one destructible or removable tube is placed in the layer of expanded graphite, said tube(s) being destroyed or removed once the layer of graphite has been consolidated.

79. (previously presented) The method as claimed in claim 76, wherein there are impressed into the absorption face of the consolidated layer of graphite capture forms having front dimensions of from 10 μm to 1 cm and a depth of from 1 mm to 1 cm.

80-98. (canceled)